

Begin

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/ 6 3

CHERKES, A.I.; GORODINSKAYA, V.YE.; KAGAN, Yu.S.

Pharmacology of sulfanilamides. Vop. fisiol. no.5:100-112 '53.  
(MLRA 8:1)

1. Kiyevskiy meditsinskiy institut, kafedra farmakologii.  
(SULFANILAMIDE,  
pharmacol.)

GORODINSKAYA, V.Ya; YAMPOL'SKAYA, M.M.

Preparation of a new article on infusions and decoctions for the  
pharmacopoeia. Apt.delo 4 no.3:43-47 My-Je '55. (MLRA 8:8)

1. Iz Tsentral'noy nauchno-issledovatel'skoy aptechnoy laborato-  
rii GAPU Ministerstva zdravookhraneniya USSR.  
(PHARMACOPOIAS,  
in Russia, section on tinctures & decoctions)

GORODINSKAYA, V.Ya.

Experimental myocardial infarction. Fiziol.zhur. [Ukr.] 2 no.1:  
53-57 Ja-F '56. (MLRA 10:1)

1. Kiiv's'kiy medichniy institut imeni akademika O.O.Bogomol'tsya,  
kafedra farmakologii.  
(HEART--INFARCTION)

YAMPOL'SKAYA, M.M.; MARGULIS, E.L.; GORODINSKAYA, V.Ya.

Preparation of infusions in galenic laboratories by a modified percolation method and the utilization of waste alcohol. Apt.delo 5 no.2;38-40 Mr-Ap '56. (MLRA 9:7)

1. In Tsentral'noy nauchno-issledovatel'skoy aptechnoy laboratorii (direktor M.N.Bushkova) Glavnogo aptechnogo upravleniya Ministerstva zdravookhraneniya USSR.  
(EXTRACTS) (ETHYL ALCOHOL)

GORODINSKAYA, V.Ya.; YAMPOL'SKAYA, M.M.

On the compiling of a new article on infusions and decoctions for  
the Pharmacopoeia; report no.2: Valerian infusion. Apt.delo 5 no.5:  
45-48 S-0 '56. (MLRA 9:11)

1. Iz TSentral'noy nauchno-issledovatel'skoy aptechnoy laboratorii  
(dir. M.N.Bushkova) Glavnogo aptekoupravleniya USSR.  
(VALERIAN)

"APPROVED FOR RELEASE: 08/25/2000

CIA-RDP86-00513R000516310001-4

GORODINSKAYA, V.Ya.

VAYSMAN, G.A., prof.; GORODINSKAYA, V.Ya., kand.med.neuk

Use of ion-exchange adsorbents in medicine. Vrach.delo supplement  
'57:96 (MIRA 11:3)

1. Kiyevskiy institut usovershenstvovaniya vrachey.  
(ION EXCHANGE)

APPROVED FOR RELEASE: 08/25/2000

CIA-RDP86-00513R000516310001-4"

GORODINSKAYA, V. Ya.

VAYSMAN, G.A., professor; GORODINSKAYA, V.Ya.

Study of the possibility of producing purified glycoside preparations similar to the new galenicals by chromatographic and ion exchange absorption. Apt.delo 6 no.5:42-46 800 '57. (MIRA 10:11)

1. Iz Tsentral'noy nauchno-issledovatel'skoy sptechnoy laboratorii (TsNIAL) Glavnogo sptechnogo upravleniya Ministerstva zdravo-ohraneniya USSR.  
(GLYCOSIDES)

Gorodins'ka, V.Ya.

v

Country : USSR  
Category: Pharmacology. Toxicology. Medicinal Plants.

Abs Jour: RZhBiol., No 6, 1959, No 27860

Author : Bogach, P.G.; Gorodins'ka, V.Ya.

Inst : Given Below\*\*\*

Title : On the Pharmacologic Properties of an Extract of  
the Flowers of Sunflowers.

Orig Pub: Fiziol. zh., 1958, 4, No 1, 107-114

Abstract: The action of a thin extract (I) of the ray flowers  
of sunflower, prepared by the method of percolation,  
was studied in experiments with frogs, mice, rabbits  
and cats. I in a dose of 4 ml/kg induces the death  
of 5 of 10 mice. In 1:1000 dilution, I dilates the  
vessels of isolated rabbit ear and increases the  
amplitude of contractions of tired frog heart. In

\*\*\*TSentral'na naukovo-doslidna aptekarna laboratoriya Golovnogo aptekoupravlinnya  
Ministerstva okhoroni zdorov'ya URSR, Naukovo-dislidniy institut fiziologii  
Kiivs'kogo derzhavogo universitetu im. T.G.Shevchenka.

v-42

Country : USSR  
Category: Pharmacology. Toxicology. Medicinal Plants.

VAYSMAN, G.A. [Vaisman, N.A.]; GUREVICH, M.I.; SKVIRSKAYA, Ye.S.  
[Skvyrs'ka, I.E.S.]; GORODINSKAYA, V.Ya. [Horodyns'ka, V.IA.]

Using ultrasonic waves in the preparation on infusions  
from alkaloid-and glucoside-bearing plants. Farmatsev.  
zhur. 18 no.4:61-65 '63. (MIRA 17:7)

1. Kafedra tekhnologii lekarstv i galenovykh preparatov  
Kiyevskogo instituta usovershenstvovaniya vrachey i  
Laboratoriya krovoobrashcheniya i dykhaniya Instituta  
fiziologii im. Bogomol'tsa AN UkrSSR.

GORODINSKAYA, V.Ya. [Horodyn's'ka, V.IA.]; SIMON, I.B.

Pharmacological properties of the preparation "Nicatol". Fiziol.  
zhur. [Ukr.] 9 no.1:129-132 Ja-F '63.

(MIRA 18:5)

GORODINSKAYA, V.Ya. [Horodyn's'ka, V.JA.]; SIMON, I.B. [Symon, I.B.]

Pharmacological activity of quaternary ammonium salts of cyclohexylamine. Farmatsev. zhur. 19 no.4:58-61 '64. (MIRA 17:11)

l. Kiyevskiy institut usovershenstvovaniya vrachey i Ukrainskiy institut eksperimental'noy endokrinologii.

GORODINSKAYA, YE.A.  
LAPIN, O.P.; KRUSHCHEV, N.S.; GORODINSKAYA, Ye.A.; KOCHERGINSKIY, M.N.  
TELYANKEVICH, V.S.; SHARPMAN, S.D.; OSTANOV, Kh.

Improving the smelting of boron carbide. Prom.energ. 12 no.8:17-18  
(MIRA 10:10)  
Ag '57. (Boron carbides) (Smelting)

GORODINSKIY, Aleksandr Matveyevich

[Collective farm on the upswing; work practices of the XVIII  
Party "ezda" Collective Farm] Kolkhoz na pod'eme; iz opyta  
raboty sel'skokhoziaistvennoi arteli imeni XVIII partiya "ezda".  
Leningrad, Leningr.gazetno-shurnal'noe i knishnoe izd-vo, 1956.  
127 p.

(MIRA 13:8)

(Collective farms)

PA 18/49T45

GORODINSKIY, B. M.

USSR/Medicine - Biography

Nov 48

Medicine - Education, Medical

"In Honor of Professor B. M. Gorodinskiy" 1 p

"Khirurgiya" No 11

Congratulates Gorodinskiy on 60th birthday and 35  
years of scientific and pedagogic activities. He  
is professor at Kiev Med Inst Ord of Labor Red  
Banner imeni Acad Bogomolets. (Photograph, CIA  
Photo Accession No P-3409).

18/49T45

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CIA-RDP86-00513R000516310001-4

RABINER, P.S., kandidat meditsinskikh nauk; GORODINSKIY, B.M., professor, zavoduyushchiy kafedroy.

Solid tumors of the mesentery of the small intestine. Klin.med. 31 no.3:  
54-55 Mr '53. (MLRA 6:5)

1. Khirurgicheskaya klinika sanitarno-sigiyenicheskogo fakul'teta Kiyevskogo  
ordena Trudovogo Krasnogo Znameni meditsinskogo instituta imeni akademika  
A.A. Bogomol'tsa.  
(Mesentery--Tumors)

APPROVED FOR RELEASE: 08/25/2000

CIA-RDP86-00513R000516310001-4"

BYALIK, V.L., dotsent; RABINER, P.S., kandidat meditsinskikh nauk; CHAYKA, Ye.I., professor, zavednyushchiy; GORODINSKIY, B.M., professor, direktor.

Malignant hemangioendothelioma of the liver and spleen. Klin.med. 31 no.8:  
82-85 Ag '53. (MLRA 6:11)

1. Kafedra patologicheskoy anatomii Kiyevskogo ordena Trudovogo Krasnogo Znameni meditsinskogo instituta im. akad. A.A.Bogomol'tsa.(for Chayka).
2. Khirurgicheskaya klinika Kiyevskogo ordena Trudovogo Krasnogo Znameni meditsinskogo instituta im. akad. A.A.Bogomol'tsa (for Gorodinskiy).  
(Liver--Tumors) (Spleen--Tumors)

L.22592-66

ACC NR: AP6013001

SOURCE CODE: UR/0105/65/000/006/0091/0091

AUTHOR: Andrianov, V. N.; Budzko, I. A.; Venikov, V. A.; Demin, A. V.; Gorodskiy, D. A.; Grudinsky, P. G.; Zakharin, A. G.; Krasnov, V. S.; Levin, M. S.; Listov, P. N.; Markovich, I. M.; Mel'nikov, N. A.; Nazarov, G. I.; Razevig, D. V.; Smirnov, B. V.; Stepanov, V. N.; Syromyatnikov, I. A.; Fedoseyev, A. M.; Yakobs, A. I.

ORG: none

TITLE: Doctor of technical sciences, Professor L. Ye. Ebin (on the occasion of his 60th birthday) 35 B

SOURCE: Elektrичество, no. 6, 1965, 91

TOPIC TAGS: scientific personnel, electric network, lightning

ABSTRACT: Professor Lev Yefimovich Ebin, 60, graduated in 1928 from the Kiyevskiy elektrotekhnicheskiy institut (Kiyev Electrotechnical Institute). Between 1929 and 1936, he worked in the Donenergo system and published various original papers on lightning protection and grounding devices. From 1936 Ebin's works at the Vsesoyuznyy nauchno-issledovatel'skiy institut elektrifikatsii sel'skogo khozyaystva (All-Union Scientific Research Institute for the Electrification of Agriculture) where he heads a laboratory. In 1937, he defended his candidate's dissertation and in 1951 his Ph. D. Thesis dealing with studies of the nonsymmetrical operating conditions of electrical networks and of stationary and nonstationary electro-thermal processes in the

Card 1/2 UDC: 621.31

L 22592-66

ACC NR: AP6013001

country. These works served for further development of the rural distribution networks. He showed considerable interest in the problem of the raising of scientific personnel. Ebin was decorated with "Znak pocheta" and various medals. Orig. art. has: 1 figure. [JPRS]

SUB CODE: 09 / SUBM DATE: none

Card 2/2 (a)

GORODINSKIY, D.M.

ROMANOVA, T.G., kandidat meditsinskikh nauk; GORODINSKIY, D.M., dotsent

Vitamin C content of the blood, muscles and thyroid tissue in patients with various forms of goiter. Vrach.delo no.6:601-603 Je '57. (MLRA 10:8)

1. Kafedra khirurgicheskikh bolezney (zav. - zasl. deyatel' nauki, prof. A.K.Gorchakov) stomatologicheskogo fakul'teta Kiyevskogo meditsinskogo instituta  
(ASCORBIC ACID) (THYROID GLAND) (GOITER)

In cases of hyperthyroidism the vitamin C content of the blood, muscles and thyroid gland is considerably reduced. Following removal of a goiter the vitamin C level does not always return to normal. With euthyroid goiter the reduction in vitamin C level is less pronounced. After surgery the vitamin C level usually does not differ from normal. When extirpation of the thyroid gland is performed, pre- and postoperative use of vitamin C is indicated.

GORODINSKIY, D.M., dozent

Minutes of meetings of the Kiev and Kiev Province Surgical Society. Nov.khir.arkh. no.1:136-143 Ja-F '59. (MIRA 12:6)  
(SURGERY)

GORODINSKIY, D.M., dotsent; TRESHCHINSKIY, A.I.; BOYKO, V.I., dotsent

Transactions of meetings of the Kiev and Kiev Province Surgical  
Society. Nov.khir.arkh. no.5:133-141 S-O '59. (MIRA 13:3)  
(KIEV PROVINCE--SURGICAL SOCIETIES)

MOROZOVA, N.P., kand.med.nauk, referent; TRESHCHINSKIY, A.I., referent;  
GORODINSKIY, D.M., dotsent, referent

Minutes of meetings of the Kiev and Kiev Province Surgical Societies.  
Nov.khir.arkh. no.6:128-134 K-D '59. (MIRA 13:4)  
(KIEV PROVINCE--SURGICAL SOCIETIES)

GORODINSKIY, D.M., referent, dotsent

Session notes for the Surgical Society of Kiev and Kiev Province;  
notes No. 7 from June 17, 1959, and notes No. 8 from September 16,  
1959. Nov. khir. arkh. no.1:135-141 Ja-F '60. (MIA 15:2)  
(KIEV PROVINCE SURGICAL SOCIETIES)

GORODINSKIY, D.M., dotsent, referent

Minutes of meetings of the Surgical Society of Kiev  
and the Kiev Province. Nov. khir. arkh. no.2:136-143 Mr-Ap '60.  
(MIRA 14:11)  
(KIEV PROVINCE—MEDICAL SOCIETIES—CONGRESSES)

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CIA-RDP86-00513R000516310001-4

GORODINSKIY, D.M., dotsent

Minutes of meetings of the Kiev and Kiev Province Surgical Society.  
Nov. khir. arkh. no.4:134-143 J1-Ag '60. (MIRA 15:2)  
(KIEV PROVINCE SURGICAL SOCIETIES)

APPROVED FOR RELEASE: 08/25/2000

CIA-RDP86-00513R000516310001-4"

GORODINSKIY, D.M., dotsent - referent; BOYKO, V.K., dotsent - referent

Minutes of meetings of the Kiev and Kiev Province Surgical Society.  
Nov. khir. arkh. no. 5135-141 S-0 '60. (MIRA 14:12)  
(KIEV PROVINCE—SURGICAL SOCIETIES)

GORODINSKIY, D.M., referent-dotsent; BOYKO, V.K., referent-dotsent

Session notes for the Surgical Society of Kiev and Kiev Province.  
Nov. khir. arkh. no.3:123-141 My-Je '61. (MIRA 15:2)  
(KIEV PROVINCE SURGICAL SOCIETIES)

GORODINSKIY, D.M., dotsent

Substernal goiter. Vrach. delo no.8:49-54 Ag '61. (MIRA 15:3)

1. Kafedra khirurgii (zav. - prof. A.K. Gorchakov [deceased])  
stomatologicheskogo fakul'teta Kiievskogo meditsinskogo instituta.  
(GOITER)

GORODINSKIV, D.M., dotsent

Proceedings of the Conferences of the Surgical Society of Kiev  
and Kiev Province. Klin.khir. no.5190-94 My '62.  
(MIRA 16s4)  
(SURGERY—CONGRESSES)

VIDY-VIRSKI, Feliks [Widy-Wirski, Feliks]; GORODINSKI, F.V. [translator];  
BARSUKOVA, M.I., prof., red.; SMULEVICH, B.Ya., doktor med. nauk,  
red.; ZUYEVA, N.K., tekhn. red.

[Principal problems in the history of medicine] Ob osnovnykh proble-  
makh istorii meditsiny. Pod red. M.I.Barsukova i B.IA.Smulevicha.  
Moskva, Gos. izd-vo med. lit-ry Medgiz, 1961. 158 p. Translated  
from the Polish. (MIRA 14:9)

(MEDICINE—HISTORY)

GORODNITSKIY, F.M., inzh.

Resistance to wear of high strength cold-drawn wire. Transp.stroi.  
11 no.3:45-47 Mr '61.  
(MIRA 14:3)  
(Reinforced bars—Testing)

GORODINSKIY, F.V., mladshiy nauchnyy sotrudnik

"Fifteen years of the new Czechoslovak public health system."  
Reviewed by F.V.Gorodinskii. Sov. zdrav. 20 no.6:89-90 '61.

(MIRA 14:7)

1. Institut organizatsii zdravookhraneniya i istorii meditsiny imeni  
Semashko,

(CZECHOSLOVAKIA—PUBLIC HEALTH)

CORODINSKIY, F.V. (Moskva)

Public health in Czechoslovakia during 1961; a review on a  
statistical collection. Sov. zdravookhr. 22 no.3887-89 '63  
(MIRA 1781)

GORODINSKIY, G. M.

Dissertation: "Investigation of Light Reflection From Dull Glass Surfaces at a Wide Angle of Incidence." Cand Tech Sci, Leningrad Inst of Precision Mechanics and Optics, Leningrad, 1953. (Referativnyy Zhurnal-Fizika, Moscow, Jun 54)

SO: SUM 318, 23 Dec 1954

GORODINSKIY, G.M.; LIVSKIY, L.K.

Demonstrations of light diffraction phenomena. Fiz. v shkole 14 no.12  
65-66 Ja-P '54. (MLBA 7:1)

1. Gorod Leningrad. Institut technoy mekhaniki i optiki.  
(Diffraction)

GORODINSKIY, G.M.

New optical method of controlling cleanliness of flat ground  
glass surface. G. M. Gorodinskij. Steklo i Keram., 12 [2]

M 13-16 (1955).—The method is based on a study of the reflecting characteristics of ground glass for large incident angles. It employs a superposing reflectometer and is intended primarily for use on ground glass prior to polishing. Measurements can be made in three variations: (1) comparison of the test surface with a standard, (2) measurement of the relative spectral coefficient of mirror reflection, and (3) direct measurement of the average depth of cavities made by the abrasive. Average cavities which can be determined range from 1.6 to 14 $\mu$ ; accuracy within the range of 1.6 to 6.0 $\mu$  is  $\pm 0.1\mu$  and within 6.0 to 14.0 $\mu$ ,  $\pm 0.3\mu$ . B.Z.K.

PM 29/8

"APPROVED FOR RELEASE: 08/25/2000

CIA-RDP86-00513R000516310001-4

GORODINSKIY, G.M.; MINAKOV, A.G.; TSOY, R.I.

Plant control of the surface finish of polished glass.  
Stek. i ker. 13 no.12:9-11 D '56.

(MLRA 10:2)

(Plate glass--Quality control)  
(Reflectometer)

APPROVED FOR RELEASE: 08/25/2000

CIA-RDP86-00513R000516310001-4"

~~GORODINSKY, O.~~

Demonstration of total internal reflection. Fiz. v shkole 17  
no.1:66 Ja-F '56. (MIRA 10:2)

1. Institut tochnoy mekhaniki i optiki, Leningrad.  
(Reflection (Optics)--Study and teaching)

AUTHOR: Gorodinskiy, G.M.  
Gorodinskiy, G.M., Dotsent

3-10-14/30

TITLE: Scientific Circles - the Right Way to Creative Power (Nauchnyye kruzki - vernyy put' k tvorchestvu). To Implant Seriousness and Independence (Privivat' ser'yoznost' i samostoyatel'nost')

PERIODICAL: Vestnik Vysshey Shkoly, 1957, # 10, pp 58 - 59 (USSR)

ABSTRACT: The Leningrad Institute of Precision Mechanics and Optics is publishing the results of student scientific research work in special periodicals.

It is a tradition of this institute that students' scientific work is supervised by institute scientists, e.g. professors V.N. Churilovskiy, M.M. Risunov, S.T. Tsukkerman, etc. Professor G.M. Kondrat'yev trained talented thermophysicists from members of the NSO (Student Scientific Society). Many of his pupils have defended candidate dissertations and G.N. Dul'nev submitted in 1953 a doctorate thesis. The author mentions the student V. Kozlov who obtained interesting results in his investigations on the reflection of light impulses from an infinite homogeneous strong turbid medium.

The organization of scientific technical conferences heightened interest in scientific society activity and research work. These conferences are particularly useful when they are assisted by teachers and factory workers.

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3-10-14/30

Scientific Circles - the Right Way to Creative Power. To Implant Seriousness  
and Independence

The author then mentions some bad points stating that some of the work of the scientific circles is carried out without the supervision of qualified scientists. Laboratory equipment is also insufficient so that sometimes the students carry out experiments in scientific research institutes or in industrial laboratories. The chairs have been requested by the institute's council to devote more interest to the NSO work. The author points out that coordination with industry is very important in this matter. Finally he criticizes the fact that too few of the students with marked research talents are selected for special training.

ASSOCIATION: The Leningrad Institute of Precision Mechanics and Optics  
(Leningradskiy institut t<sub>e</sub>chnoy mekhaniki i optiki)

AVAILABLE: Library of Congress

Card 2/2

AUTHOR: Gorodinskiy, G.M.

SCV-115-58-4-14/45

TITLE: A Shop Instrument for Checking the Roughness of the Surface  
in Flat Ground Glass (Tsekhoveroy pribor dlya kontrolya  
sherokhovatosti poverkhnosti ploskogo shlifovannogo stekla)

PERIODICAL: Izmeritel'naya tekhnika, 1958, Nr 4, pp 26-27 (USSR)

ABSTRACT: The described device is a reflexometer used for checking  
the micro-geometry of glass plates after grinding and be-  
fore polishing begins. It works on the principle of a  
change in the spectral make-up of light, mirror reflected  
from matte surfaces. This change is conditioned by the  
microscopic unevenness in the surface of the ground glass,  
so that the spectral coefficient of the mirror reflection  
or the relation of these factors in various parts of the  
spectrum may serve as a criterion in the qualitative and  
quantitative evaluation of the surface roughness of ground  
glass. The reflexometer consists of a collimator project-  
ing an adjustable light beam onto the surface of the glass  
at an angle of 83° and a receiving assembly which picks up

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SOV-115-58-4-14/45

A Shop Instrument for Checking the Roughness of the Surface in Flat  
Ground Glass

the mirror reflection and focusses it onto a silver-sulfide photoelectric cell connected to a microammeter. Standard glasses are used to calibrate the microammeter's scale to that of a reflexometer. Three methods of using the apparatus are described: 1) by comparison of the surface under test and standard glasses, 2) measuring the relative monochromatic factor of the mirror reflection, 3) direct determination of the mean value of the microscopic irregularities. There are 2 graphs and 1 schematic diagram.

1. Glass--Surface properties
2. Reflectometers--Design

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66184

~~18(7), 25(1,5) 25.6000~~

SOV/146-58-5-19/24

AUTHORS: Gorodinskiy, G.M., Candidate of Technical Sciences,  
and Tsenter, M.Ya., Aspirant

TITLE: Optical Method to Control Accuracy of Work on Flat  
Smoothed Metal Surfaces

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy - Priborostroy-  
eniye, 1958, Nr 5, pp 134-140 (USSR)

ABSTRACT: The purpose of these investigations is development of  
an optical method to control working accuracy on flat  
smoothed surfaces. This study continues an earlier  
investigation of the same authors on the subject of  
reflection qualities of flat, deadened reflecting sur-  
faces, with the light falling in a wide angle. The  
qualities of deadened reflecting surfaces were invest-  
igated by Midlton and Vychetskiy. The author stresses  
the fact, that polished metal surfaces cannot be com-  
pared with mirror surfaces because of their different  
microtopography. The different methods of polishing  
and, resulting from that, the different surfaces are  
discussed. Figure 1 shows the way in which the line

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Optical Method to Control Accuracy of Work on Flat Smoothed Metal Surfaces

are drawn on the raster. Figure 2 shows a photo of the diffraction cards (a - polished surface; b - the pattern in profile). The sample specimen were produced with the exactness rates 7-9. The values in table 1 prove, that in uneven rasters the small squares become larger, if the average height of the microrelief is reduced. Figure 4 gives a diagram of the photometer. It consists of a moveable hinge in form of a parallelogram and of a small magnetic table which serves to fasten the parts. This magnetic table consists of two artificial magnets in shape of two bars, which are fixed to a cylindric support standing on a disc. The construction of this table is explained in figure 5, which shows the whole photometer. The stand and the disc are of iron ARMKO. The accuracy of work on the flat smoothed metal surfaces is tested by comparing the surfaces of the test parts with those of the sample specimen. The integral photometric way of testing the accuracy of work is very exact and is

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SOV/146-58-5-19/24

Optical Method to Control Accuracy of Work on Flat Smoothed Metal  
Surfaces

generally used to control the technological process  
of flat polishing. There are 2 photographs, 3 graphs,  
1 table and 7 references, 6 of which are Soviet and 1  
English.

ASSOCIATION: Leningradskiy institut tochnoy mekhaniki i optiki  
(Leningrad Institute of Fine Mechanics and Optics)

✓

Card 3/3

GORODINSKIY, G.M.; POKROVSKIY, V.N.; FIRSOV, Ye.I.

Neutron-deficient Gd and Eu isotopes with mass numbers 145 and 147.  
Uch zap. Pod inst Gerts. 197:176-179 '58. (MIRA 16:9)  
(Gadolinium isotopes—Spectra)  
(Europium isotopes—Spectra)

15(2)

AUTHORS: Gorodinskiy, G. M., Kudryashov, A. M., Mikhaylovskiy, Yu. K. SOV/72-59-7-12/19

TITLE: New Models of Reflexometers (Novyye modeli refleksometrov)

PERIODICAL: Steklo i keramika, 1959, Nr 7, pp 37 - 39 (USSR)

ABSTRACT: As may be seen from papers by G. M. Gorodinskiy, A. G. Minakov, R. I. Tsoy (see footnote) up to now the attachment reflexometer NRG-1 was used for the operational control of the working accuracy of flat polished surfaces in glass works. This device exhibits a number of shortcomings and must be operated by 2 persons. Figure 1 shows the new model of the attachment reflexometer RN1 which may be operated by one person. Its wiring diagram is represented in figure 2. For this purpose the valves 6N9S, the ferroresonance voltage stabilizer STN-35M, the germanium diodes of the type DGTs-27 and the incandescent lamp STs61 were used. For the purpose of examining the accuracy of the processing of glass which afterwards is to be polished, a test sample of a recording reflexometer RR1 was produced (see figures 3 and 4). Its measuring device consists of the antimony-cesium-photocell STsV-6, the microamperemeter of the type M24, and the electronic potentiometer of the type EPP-09. The reversible motor DT-75 and the electromagnetic muff EMR-500 are fitted into the carriage mechanism. The recording

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New Models of Reflexometers

SOV/72-59-7-12/19

reflexometer was tested and mounted in the polishing line of the Gusevskiy Glass Works. The calibration of the reflexometer is carried out according to the GOST 2789-51. By means of this device only clean, degreased, and dry glass shall be examined. There are 4 figures and 2 Soviet references.

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S/146/60/003/03/13/01 /  
B019/B054

18.8400

AUTHORS: Gorodinskiy, G. M., Kudryashov, Yu. V.

TITLE: Reflectometer for the Control of Roughness of Ground Metal Surfaces

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Friborostroyeniye, 1960, Vol. 3, No. 3, pp. 104 - 107

TEXT: The reflectometer described here is intended for controlling plane and cylindrical surfaces produced by external grinding machines. The control is based on the assumption that the surface is an irregular, reflecting diffraction grating (Fig. 1). The quality of surface is judged by the intensity of the photographic or photoelectric diffraction images. In the instrument described, the light beam falls under 85° on the surface to be investigated, and is reflected. The optical equipment is discussed with the aid of the sketch in Fig. 1; Fig. 2 shows a photograph of the entire device. Steel samples produced by the Vsesoyuznyy nauchno-issledovatel'skiy institut shlifovaniya i abrazivov (All-Union Scientific Research Institute of Grinding and Abrasives) were used in

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Reflectometer for the Control of Roughness  
of Ground Metal Surfaces

8156  
5/146/60/003/03/13/017  
B019/B054

testing the suitability of the instrument described. A table lists data which show that the instrument is highly sensitive. Some indications as to the applicability of the instrument are given. The publication of this article was recommended by the Kafedra spektral'nykh i optiko-fizicheskikh priborov (Chair of Spectral and Optical and Physical Instruments). There are 3 figures, 1 table, and 3 Soviet references.

ASSOCIATION: Leningrad institut tochnoy mekhaniki i optiki  
(Leningrad Institute of Precision Mechanics and Optics)

SUBMITTED: February 2, 1960

✓

Card 2/2

GORODINSKIY, G.M.; KUDRYASHOV, Yu.V.

Photometer for checking the cleanliness of the surfaces of  
polished industrial glass and mirrors. Stek. i ker. 19 no.7:  
16-17 J1 '62. (MIRA 15:7)  
(Photometers) (Glass--Testing) (Mirrors)

GORODINSKIY, G.M.

Andrei Aleksandrovich Gershun; on the occasion of his 60th  
birthday. Izv. vys. ucheb. zav.; prib. 6 no.5:146-147 '63.  
(MIRA 16:11)

L-13105-63

EWP(q)/EWT(m)/BS AFFTC/ASD Pg-4 WH

ACCESSION NR. AP3003419

S/0051/63/015/001/0113/0118

56

AUTHOR: Gorodinskiy, G.M.

TITLE: On the question of statistical interference in reflection of light from  
matte glass surfaces

SOURCE: Optika i spektroskopiya, v.15, no.1, 1963, 113-118

TOPIC TAGS: reflection, polished glass, frosted glass

ABSTRACT: Although there have been many investigations of the reflective properties of matte (frosted) glass - the earlier studies from Rayleigh through H.E.Bennet and I.O.Porteus (J.Opt.Soc.Am., 51, 123, 1961) are briefly reviewed - few authors have specifically considered interference and diffraction phenomena incident to reflection. The present theoretical and experimental study of the reflecting properties of matte glass surfaces was undertaken with a view to developing instruments and procedures for evaluating the roughness of polished glass (optical components, mirrors, automobile windshields, etc.). Measurements were made at angles of incidence exceeding 70°, for at such angles there should not be much scattered light in the reflected flux. In deriving the equation for the relative reflection coefficient  $\rho_{rel}$ , it was assumed that the micromirrors are approximately equal and

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L 13105-63

ACCESSION NR: AP1003419

normally distributed. The final equation is  $\rho_{rel} = \exp -qk^2$ , where q and k are called by the authors the index of roughness and the index of interference, respectively. Experimental verification of the formula was carried out on a goniometric set-up consisting of two collimators mounted on the linkages of a parallelogram framework. This set-up allows of measuring intensities in the direction of mirror reflection in the angle of incidence range from 45 to 86°. The collimator aperture angles were 0.5°. The experimental results support the basic assumptions made in deriving the reflection formula. Finally, the author's group developed prototype reflectometers suitable for use in industrial laboratories and quality control departments (these are described elsewhere). By means of such reflectometers the depth of the matte layer can be determined in three ways: from the measured value of  $\rho_{rel}$  by comparison with a standard, and by determination of the height of the microscopic irregularities with reference to specimens with a known micropattern. Orig.art. has: 15 formulas, 1 figure and 2 tables.

ASSOCIATION: none

SUBMITTED: 27June62

DATE ACQ: 30Jul63

ENCL: 00

SUB CODE: MI, SD

NO REF Sov: 006

OTHER: 007

Card 2/2

GORODINSKIY, G.M., kand.tekhn.nauk

Checking the smoothness of surfaces of polished sheet glass.  
Stek.i ker. 20 no.2:16-19 F '63. (MIRA 16:2)

1. Leningradskiy institut tochnoy mekhaniki i optiki.  
(Glass--Defects)

GORODINSKIY, G.M., kand. tekhn. nauk; GALKINA, V.N., inzh.

Photoelectric setup for the control of the degree of surface  
finish of plane polished glass. Stek. i ker. 20 no.7:17-19  
Jl '63. (MIRA 17:2)

1. Leningradskiy institut tochnoy mekhaniki i optiki.

ACCESSION NR: AP4011492

S/0051/64/016/001/0112/0116

AUTHOR: Gorodinskiy, G.M.

TITLE: Polarizing properties of frosted glass surfaces as regards reflection

SOURCE: Optika i spektroskopiya, v.16, no.1, 1964, 112-116

TOPIC TAGS: polarization, polarizing plate, frosted glass, mat glass, depolarizing plate, mirror reflection, diffuse reflection, Brewster angle

ABSTRACT: The purpose of the work was to investigate the polarizing properties of frosted (mat) glass surfaces incident to mirror and diffuse reflection. In order to eliminate effects connected with absorption and scattering of the visible light in the bulk of the glass and from the back surface, the specimens were prepared of black (infrared filter) IKS-2 glass, which is used for isolating the 840 to 2800  $\mu\text{m}$  section of the spectrum. The three specimens were prepared by grinding the prepoltished surfaces with corundum powders of different grades (average grain sizes 58, 24 and 6 microns). The light from the incandescent lamp source was polarized by means of a polyvinyl filter and the degree of polarization in the plane of incidence was measured on a goniophotometric set-up. The radiation detector was a phot-

Card 1/A<sup>2</sup>

ACC.NR: AP4011492

tube with a cesium-antimony photocathode. The measurement consisted in determining the degree of polarization of the mirror reflected and diffusely reflected light. The polarization measurements were carried out for light reflected in the direction of mirror reflection in the range of angles of incidence from 30 to 80° at 5° intervals and at the Brewster angle and for diffusely reflected light for angles of incidence of 45, 60 and 70° and observation angles in the range from 10 to 80° at 5° intervals. The results are presented in graphic form. The curves for mirror reflection are shown in Fig.1 of the Enclosure. The dependences obtained for diffuse reflection are analogous. The polarization curves for mirror reflection are qualitatively similar to the curve calculated by means of the Fresnel formulas for a polished IKS-2 glass surface. The position of the peaks in all the curves approximately corresponds to the Brewster angle. The observed dependences may be of help in selecting and preparing frosted glass plates for use as depolarizing elements. "The author expresses his gratitude to N.G.Bakhshiev for discussion of the results."

Orig.art.has: 1 formula and 2 figures.

2/12

Card

GORODINSKIY, G.M., kand. tekhn. nauk; RUDIN, V.L., inzh.

Laboratory control method of the roughness of ground glass surfaces. Stek. i ker. 22 no.4;28-29 Ap '65. (MIRA 18:5)

1. Leningradskiy institut tochnoy mekhaniki i optiki.

L-7733-66 EWT(1)/ETC(m) WW  
ACC NR: AP5025910

SOURCE CODE: UR/0057/65/035/010/1910/1911

AUTHOR: Gorodinskiy, G.M.; Damaskinskiy, Ye. A.; Romanov, A.M.

ORG: Physicotechnical Institute im. A.F. Ioffe, AN SSSR, Leningrad (Fiziko-tehnicheskiy institut AN SSSR)

TITLE: On recording several particles with an acoustical spark chamber

SOURCE: Zhurnal tekhnicheskoy fiziki, v. 35, no. 10, 1965, 1910-1911

TOPIC TAGS: spark chamber, particle detector, plane geometry

ABSTRACT: It is shown that one can uniquely determine the position of a point in a plane provided one knows the distance of the point from each of three fixed points in the plane and, that if the distances are subject to small experimental errors, the probability of mislocation can be reduced by employing more fixed points. The contemplated application is to the location of a spark in a spark chamber from measurements of the time of occurrence of the spark and the times of arrival of the resulting shock wave at several microphones. Despite the title of their letter, the authors do not discuss the confusion that can arise when several sparks occur simultaneously or nearly so. References are given to descriptions of several microphones which are believed to be suitable for the contemplated application. Orig. art. has: 1 formula

SUB CODE: NP MA/ SUBM DATE: 06Apr65/ ORIG REF: 000/ OTH REF: 004

Card 1/1

UDC: 539.107.49

0701 1698

L 11154-67 EVT(m)/IMP(e) WH

ACC NR: AP6034213

SOURCE CODE: UR/0368/66/005/004/0451/0455

27

AUTHOR: Gorodinskiy, G. M.; Galkina, B. N.

ORG: none

TITLE: Problem of perturbation of light coherence by frosted glass surfaces

SOURCE: Zhurnal prikladnoy spektroskopii, v. 5, no. 4, 1966, 451-455

TOPIC TAGS: light coherence, frosted glass, optic glass, surface roughness, refractive index, glass surface, light transmission

ABSTRACT: A study was made of the degree of perturbation passing through an uneven frosted glass surface prepared from five types of optical glass. The glasses were wetted with distilled water, glycerin, and cedar oil. The measurements have been made using the photoelectric apparatus assembled according to the Young diagram. Curves have been plotted from which one can see the character of visibility change of the interference pattern as a function of the degree of roughness of the frosted glasses and the difference in the refractive indices of the samples and immersion liquids. The coefficient of coherence  $k$  changes from 0.96 to 0.40 and depends linearly on the optical path difference between the beams passing through

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UDC: 535.41

"APPROVED FOR RELEASE: 08/25/2000

CIA-RDP86-00513R000516310001-4

L 11154-67

ACC NR: AP6034213

the glass and the liquid. Orig. art. has: 3 figures, 3 formulas, and 1 table.  
[Based on authors' abstract]

SUB CODE: 03, 20/SUBM DATE: 06May65/ORIG REF: 004/OTH REF: 005/

Card 2/2 mle

APPROVED FOR RELEASE: 08/25/2000

CIA-RDP86-00513R000516310001-4"

Gorodinskiy, G.M.

48-7-15/21

AUTHORS: Gorodinskiy, G.M., Murin, A.N., Pokrovskiy, V.N.,  
Preobrazhenskiy, B.K.

TITLE: On Neutron Deficient Isotopes of Rare Earths which Form as the  
Result of the Reaction of a "Deep" Separation of Ta under Irra-  
diation by Protons with an Energy of 660 MeV  
(O neytronodefitsitnykh izotopakh redkikh zemel' obrazuyushchikh-  
sya v rezul'tate reaktsii glubokogo otshchepleniya Ta pri ob-  
luchenii protonami energii 660 MeV)

PERIODICAL: Izvestiya Akad. Nauk SSSR, Ser. Fiz., 1957, Vol.21, Nr 7,  
pp. 1004 - 1012 (USSR)

ABSTRACT: The rare earths were chosen for the study, since the neutron  
deficient isotopes of the lanthanides which form in the reaction  
are little investigated and sometimes also unknown. A tantalum  
target was irradiated by a synchronous cyclotron from the United  
Institutes for Nuclear Research. The separation of the rare  
earths was carried out chromatographically. The study of indi-  
vidual fractions was principally performed by the scintillation  
method by means of a  $\gamma$ -spectrometer and  $\gamma$ - $\gamma$ -coincidences.  
The scintillation- $\gamma$ -spectrometer constructed by the authors is

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48-7-15/21

On Neutron Deficient Isotopes of Rare Earths which Form as the Result of the Reaction of a "Deep" Separation of Ta under Irradiation by Protons with an Energy of 660 MeV

fully explained. The use of a lead collimator with an aperture in the form of a truncated cone proved to be best for determining the relative intensities of  $\gamma$ -lines. In order to remove the X-ray fluorescence of lead, tantalum-tin and copper foil were glued inside the cone. Then the investigation of the line forms is described and formulae are given for the calculation of the efficiency coefficient of the  $\gamma$ -quantum number and of others. By means of these formulae those were calculated for quite a number of X-ray and  $\gamma$ -quantum energies. The resulting data are represented on figure 1. A detailed interpretation of the measurement results is given namely for the isotopes Lu, Yb and Tu with the mass numbers from 173 to 165. Figure 2 shows the  $\gamma$ -spectrum of Lu<sup>173</sup> and figure 3 shows the decay scheme for Lu<sup>173</sup>. Figure 4 represents the  $\gamma$ -spectrum of Tu<sup>167</sup> in the section of small energy. Figure 5 records the decay scheme of Tu<sup>167</sup> and figure 6 the probable decay scheme of Tu<sup>166</sup>. There are 6 figures and 15 references, 6 of which are Slavic.

Card 2/3

48-7-15/21

On Neutron Deficient Isotopes of Rare Earths which Form as the Result of the Reaction of a "Deep" Separation of Ta under Irradiation by Protons with an Energy of 660 MeV

ASSOCIATION: Radium Institute im. V.G. Khlopin, AN USSR  
(Radiyevyy institut imeni V.G. Khlopina Akademii Nauk SSSR)

AVAILABLE: Library of Congress

Card 3/3

Gorodinskiy, G. M.

48-12-11/15

AUTHORS: Gorodinskiy, G. M., Murin, A. N., Pokrovskiy, V. N., Preobrazhenskiy, B. K.

TITLE: On Isotopes of Rare Earths With a Deficiency of Neutrons That Form in Deep Splitting (Spallation) of Ta by Protons With an Energy of 660 MeV. Information II(О нейтроне дефицитном изотопах редких земель, образуемых в результате реакции глубокого рассеяния Та протонами энергии 660 МэВ. Сообщение II)

PERIODICAL: Izvestiya AN SSSR, Seriya Fizicheskaya, 1957, Vol. 21, Nr 12,  
pp. 1624 - 1632 (USSR)

ABSTRACT: Elements of the group of rare earths were separated from a tantalum-target. The latter was on a synchrocyclotron irradiated by rapid protons with 660 MeV and chromatographically separated. The results for the isotopes A from 160 to 134 are given here. A = 160. The observed isotopes Er and Ho with the mass number 160 form a genetic chain. The Er<sup>160</sup>-decay is according to reference 2 not accomplished by a  $\gamma$ -quantum-emission. This was again confirmed here. Thus the Er<sup>160</sup>-decay immediately passes to the original and isomeric level of Ho<sup>160</sup>. The existence of the isomer Ho<sup>160 m</sup> ( $T_{1/2} = 5$  hours) was definitely determined in reference 3. Experiments were made for determining the relative probability of the transi-

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48-12-11/15

On Isotopes of Rare Earths With a Deficiency of Neutrons That Form in Deep Splitting (Spallation) of Ta by Protons With an Energy of 660 MeV. Information II.

tions to the isomeric and original(ground-) level of Ho<sup>160</sup>. The results are given here. A = 159: Among others the long-lived isotope Dy<sup>159</sup> ( $T_{1/2} = 134$  days) which does not emit any  $\gamma$ -rays was separated. A = 157: In the fraction Dy (which was purified of Y) an activity which declined with  $T = 8,5$  hours was determined. A = 156: A presence of Tb<sup>156</sup> in the fraction Tb is possible. A = 155: The line 227 keV was very distinctly determined in the  $\gamma$ -spectrum of the fraction Dy. The intensity of this line decreased with  $T_{1/2} = 10$  hours. Besides it was determined that Tb with a half-decay period of about 5 days develops in the decay of the isotope Dy with  $T_{1/2} = 10$  hours. It is assumed that if Tb<sup>156</sup> were present among the products of separation of Ta, its  $\gamma$ -spectrum would closely coincide with the  $\gamma$ -spectrum of Tb<sup>155</sup>. A = 154: The presence of the isotope Tb<sup>154</sup> in the fraction is possible. A = 153: Among the Dy-isotopes is Dy<sup>153</sup> which possesses a half-decay period of 10 hours without emitting  $\gamma$ -quanta. A = 151: An activity with  $T_{1/2} = 20$  hours was determined in the Tb-fraction. A long-lived isotope Gd<sup>151</sup> with  $T_{1/2} = 150$  days is present in the Gd-fraction and probably among the daughter-elements of Tb. A = 149: The spectrum of Gd<sup>149</sup> contains the lines 150, 300, 347 and 520 (probably a double-

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On Isotopes of Rare Earths With a Deficiency of Neutrons That Form in Deep Splitting (Spallation) of Ta by Protons With an Energy of 660 MeV. Information II.

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-line) keV. A = 147: Activities with  $T_{1/2} \sim 1,5$  days and 60 days which do not correspond to any known Gd-isotope were determined in the Gd-fraction. Some time after the separation Eu<sup>147</sup>-lines occurred in the  $\gamma$ -spectrum of the Gd-fraction. Important conclusions on the relative intensity of the lines were drawn. 1.) The presence of the coincidence-peaks of the lines 120 and 200 keV with X-radiation (40 keV) indicates a coincidence of the  $\gamma$ -quanta with the X-rays of Sm<sup>147</sup>. This is confirmed by the direct tests in the scheme of the  $\gamma$ - $\gamma$ -coincidences. The lines 120 and 200 keV themselves do not yield any coincidence. 2.) The line 80 keV formally considered as really existing (reference 11) in reality is the peak of the coincidence of X-rays developing during K-capture and conversion. 3.) By evaluation of the intensity of this peak an evaluation of the conversion-coefficients can be obtained. A = 145: The activity with  $T_{1/2} \sim 60$  days was determined in the Gd-fraction and classified with the isotope Gd<sup>145</sup>. The  $\gamma$ -spectrum of Gd<sup>145</sup> consists of 115 keV-lines. The lines 640 and 750 keV belong to Eu<sup>145</sup>. According to precise data the  $\gamma$ -spectrum of Eu<sup>145</sup> ( $T_{1/2} \sim 5$  days) consists of the lines 636 and 745 with the relative intensities 1,0 and 2,3. A = 140: The activity with  $T_{1/2} \sim 3,5$  days

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48-12-11/15

On Isotopes of Rare Earths With a Deficiency of Neutrons That Form in Deep Splitting (Spallation) of Ta by Protons With an Energy of 660 MeV. Information II.

discovered in the Nd-fraction was ascribed to Nd<sup>140</sup> ( $T_{1/2} = 3,3$  days). The only distinctly visible annihilation-line 510 keV and also positrons with 2,3 MeV were noticed in the  $\gamma$ -spectrum of the Nd-fraction. A = 139: In the  $\gamma$ -spectrum of the Pr-fraction an annihilation-line 510 keV was noticed whose intensity decreased with  $T_{1/2} \sim 4$  hours. It was ascribed to the Pr<sup>139</sup>-decay ( $T_{1/2} = 4,2$  hours according to reference 5). A = 134: The existence of the genetic chain Ce<sup>134</sup>  $\xrightarrow{K}$  La<sup>134</sup>  $\xrightarrow{K}$  Ba<sup>134</sup> with the 52 hours  $\sim 6,5$  minutes characteristics described in reference 5 was confirmed. Finally some observations on non-identified activities are given. In the work participated: V. P. Dzhelepov, V. N. Mekhedov, V. A. Khal'kin, B. S. Dzhelepov, N. M. Anton'yeva, A. A. Bashilov, A. V. Kalyamin, O. M. Lilova. There are 7 figures, and 15 references, 9 of which are Slavic.

ASSOCIATION: Radium Institute im. V. G. Khlopin AS USSR.  
(Radiyevyy institut im. V. G. Khlopina Akademii nauk SSSR)

AVAILABLE: Library of Congress

Card 4/4

GORODINSKIY, G. M.

56-6-38/47

AUTHORS: Berlovich, E. Ye. , Grotovskiy, K. M. , Bonits, M. P. , Gorodinsky, G. M.

TITLE: The Life of a 264 KeV-Level of the Er<sup>167</sup> Nucleus  
(Vremya zhizni urovnya yadra Er<sup>167</sup> s energiyey 264 KeV)

PERIODICAL: Zhurnal Eksperimental'noy i Teoreticheskoy Fiziki, 1957, Vol. 33,  
Nr 6 , pp. 1523 - 1524 (USSR)

ABSTRACT: By means of coincidence measurements the half-life of the 264  
KeV-level of the Er<sup>167</sup> nucleus was measured at  $T_{1/2} = (2,0 \pm 0,5) \cdot 10^{-9}$  s  
and herefrom a half-life of radiation of  $T = 1,4 \cdot 10^{-8}$  s was com-  
puted.  
The quadrupole moment computed herefrom is greater by the factor 2  
than the measured one. This discrepancy is probably due to the in-  
accurate determination of the E 2 and M 1 ratio of this  $\gamma$ -transi-  
tion. There are 1 figure, and 8 references, 7 of which are Slavic.

Card 1/2

The Life of a 264 KeV-Level of the Er<sup>167</sup> Nucleus

56-6-38/47

ASSOCIATION: Leningrad Physico-Technical Institute AN USSR  
(Leningradskiy fiziko-tekhnicheskiy institut Akademii nauk SSSR)

SUBMITTED: August 2, 1957

AVAILABLE: Library of Congress

Card 2/2

AUTHOR GORODINSKIY, G.M., MURIN, A.N., POKROVSKIY, V.N., PREOBRAZHENSKIY, B.K.,  
TITOV, N.E. PA - 2109

TITLE The Radioactive Isotopes of Rare Earths Formed on the Occasion of a  
Thorough Separation (Radioaktivnyye isotopy redkikh zemel' obrazuemyye  
v reaktsii glubokogo otshchepeniya).

PERIODICAL Doklady Akademii Nauk SSSR, 1957, Vol 112, Nr 3, pp 405-406 (U.S.S.R.)  
Received 3/1957 Reviewed 4/1957

ABSTRACT The authors separated the long-lived radioactive isotopes (which were  
obtained on the occasion of the irradiation of tantalum with 680 MeV  
protons on the synchrocyclotron of the United Institute for Nuclear Re-  
search) and separated then from one another chromatographically. The  
determination of half-lives, of the type and energy of radiation, as well  
as the repeated recording of  $\gamma$ -spectra by means of a scintillation spectro-  
meter (NaJ(Tl) and CsJ(Tl) crystals) made the identification of some  
previously known radioisotopes, the exact explanation of some genetic con-  
nections, the discovery of new isotopes of gadolinium, and the mentioning  
of some new lines in the  $\gamma$ -spectra of the nuclides investigated here pos-  
sible. The present report contains a short enumeration of the results ob-  
tained. 1) Cerium: The isotopes Ce<sup>134</sup> and Ce<sup>139</sup> were discovered, the radio-  
active properties of which agree fully with the properties mentioned in  
other papers. 2) Neodym: In this fraction only the single radioactive iso-  
tope Nd<sup>140</sup> ( $T=3,3$  days) was noticed with a hitherto not investigated  $\gamma$ -  
spectrum. According to the data obtained by the authors there exists, apart  
from an intense annihilation-gamma-line with the energy of 0,51 MeV, a

Card 1/2

Pecheninsk, AS USSR

PA - 2109

The Radioactive Isotopes of Rare Earths Formed on the Occasion of a Thorough Separation.

$\gamma$ -line which is located nearby with 0,5 MeV, the latter was discovered on the basis of the shape of the annihilation line. Within the energy range of from 0,26 to 0,32 MeV there is a group of weak lines. Furthermore, there exists a line with 0,19 MeV and a weak line with 0,11 MeV. 3) Europium: The isotopes Eu<sup>145</sup> (T=5 days) and Eu<sup>147</sup> (T=24 days) were found, the  $\gamma$ -spectra of which have hitherto not been mentioned by works published. The  $\gamma$ -spectrum of Eu<sup>145</sup> consists of the four weak lines 0,630, 0,660, 730 and 0,890 MeV, the spectrum of Eu<sup>147</sup> of the weak, apparently highly converging line 0,80 MeV as well as of the two intense lines 0,124 and 200 MeV. 4) In gadolinium activities with the half lives 1,5 days, 9 days, and 70 ± 5 days were observed. 5) In terbium activities with half lives of 20 hours and 4,5 days were observed, and in dysprosium an activity with the half life of 8 hours was found. 7) In the case of holmium, erbium, and thulium the principal data agree satisfactorily with the results obtained by other authors. 8) In the case of Ytterbium an activity with the half lives of 60 hours (Yb<sup>166</sup>) and 31 days (Yb<sup>169</sup>) was found. 9) In Lutetium T = 2,7 to 8, ~35 days, and even larger half life was observed. (No illustrations)

ASSOCIATION Not given  
PRESENTED BY L.A. ARTSIMOVICH  
SUBMITTED 24 10. 1956  
AVAILABLE Library of Congress  
Card 2/2

GORODINSKIY, G. M. Cand Phys-Math Sci -- (diss) "Study of the gamma-spectra  
of ~~the~~ neutron-deficient isotopes of lutecium, thulium, gadolinium, and  
europium." Mos, 1958. 12 pp; 1 sheet of charts (Joint Inst of Nuclear Studies),  
150 copies (KL, 13-58, 92)

-4-

SOV/48-22-7-8/26

AUTHORS: Gorodinskiy, G. M., Murin, A. N., Pokrovskiy, V. N.

TITLE: Mass Numbers of Gadolinium Isotopes With a Half-Life of  $T_{1/2} = 52$  Days and of Europium Isotopes With a Half-Life of  $T_{1/2} = 4,3$  Days (Oznamenii massovogo chisla izotopov gadoliniya s periodom poluraspada  $T_{1/2} = 52$  dn. i yevropiya s periodom poluraspada  $T_{1/2} = 4,3$  dn.)

PERIODICAL: Izvestiya Akademii nauk SSSR, Seriya fizicheskaya, 1958, Vol. 22, Nr 7, pp. 811-814 (USSR)

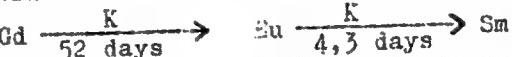
ABSTRACT: The  $\gamma$ -spectrum of the gadolinium fraction (obtained from a "thorough" (~~glubokoye~~) fission reaction) was investigated with a  $\gamma$ -scintillation spectrometer in the scintillation equipment for  $\gamma$ - $\gamma$  coincidences. A description of the scintillation counter and of the measuring method is given in reference 1. In order to determine the content of Gd ( $T_{1/2} = 52$  days) in the gadolinium fraction, the energy of the  $\gamma$ -line in the range of 115 keV was carefully measured. It was found that the proportion of gadolinium with a half-life of 52 days ( $E = 115$  keV) is much smaller in the preparation than it is in  $Gd^{153}$ . The  $\gamma$ -spectrum of Gd with a half life of 52 days consists of two

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SOV/48-22-7-8/26

Mass Numbers of Gadolinium Isotopes With a Half-Life of  $T_{1/2} = 52$  Days and  
of Europium Isotopes With a Half-Life of  $T_{1/2} = 4,3$  Days

lines at an energy of the order of 115 keV and of one  $\gamma$ -line at an energy of 150 keV. The quanta of these energies coincide with respect to their moment of emission. Europium apparently possesses two neutron-deficient isotopes with periods close to each other. One of them could be the europium isotope Eu<sup>145</sup>, which was investigated by Hoff (Khoff) (Ref 5). The mass number of isotopes can be determined by comparing the  $\gamma$ -spectra with  $\gamma$ -spectra of already investigated nuclides. It is attempted to ascribe such mass numbers to the isotopes of the decay chain



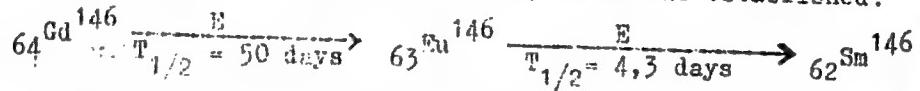
as not to contradict the evidence available on isotopes with a neutron deficit. The energy levels of these nuclei well agree with the values which could be expected from an excited state of an odd-odd (Eu<sup>146</sup>) and an even-even nuclide (Sm<sup>146</sup>). Hence it may be expected that the energy of the first vibration level will be close to the energy of the corresponding level of <sup>60</sup>Nd<sup>144</sup>, as this nuclide also has two neutrons outside of the closed shell and an even number of protons. This is actually the case. The chain of radioactive transmutations

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Mass Numbers of Gadolinium Isotopes with a Half-Life of  $T_{1/2} = 52$  Days and  
of Europium Isotopes with a Half-Life of  $T_{1/2} = 4,3$  Days

ECV/45-22-7-8/26

is written down in its final order, as it was established:



L. A. Peker took part in the discussion of the results.  
A. V. Kalyamin assisted in the work. There are 4 figures,  
1 table, and 6 references, 5 of which are Soviet.

ASSOCIATION: Radiyevyy institut im. V. G. Khlopina Akademii nauk SSSR  
(Radium Institute imeni V. G. Khlopin AS USSR)

Card 3/3

SOV/48-22-7-11/26

AUTHORS: Gorodinskiy, G. M., Murin, A. N., Pokrovskiy, V. N.,  
Preobrazhenskiy, B. K.

TITLE: On the Lutetium Isotope With the Mass Number 173 (Ob izotope  
lyutetsiya s massovym chislom 173)

PERIODICAL: Izvestiya Akademii nauk SSSR, Seriya fizicheskaya, 1958, Vol.  
22, Nr 7, pp. 818-820 (USSR)

ABSTRACT: A long-lived Lu-isotope with a half-life  $T_{1/2}$  of about 200 days was discovered by the authors among the products of the rare earths obtained from a "thorough" (glubok) fission reaction. It was given the mass number 173. (Ref 1). As this half-life does not agree with that of reference 2 for Lu<sup>173</sup> and as it is near to that of Lu<sup>174</sup> (165 days) a separation of Lu from Hf was carried out. The lutetium separated from Hf was stored for several months until the short-lived isotopes had decayed almost completely. Then the  $\gamma$ -spectra were investigated as well as the  $\beta$ -spectra of the preparation obtained by a chromatographic separation of the sum of radioactive rare

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On the Lutetium Isotope With the Mass Number 173

SOV/48-22-7-11/26

earths. When the necessity arose, the Lu preparations were purified from Yb<sup>169</sup>. A comparison of the spectra shows that the basic proportion of the activity of long-lived Lu is without doubt caused by only one isotope with a half life of about 200 days. The table of isotopes from reference 2 shows that the only isotope remaining in the preparation separated from Hf is Lu. Thus, the earlier identification by the authors was substantiated.  $\gamma$ -lines with an energy of 345, 570 and 630 keV were discovered in the range of hard  $\gamma$ -radiation of the spectrum of Lu<sup>173</sup>. It is only assumed that the 570 and 630 keV -lines originate from the Lu<sup>173</sup> spectrum. The relative intensities of the  $\gamma$ -lines of Lu<sup>173</sup> are determined by the following ratio:  $\gamma_{79} : \gamma_{101} : \gamma_{175} : \gamma_{274} : \gamma_{345} : \gamma_{570} : \gamma_{630} = 1 : 0,52 : 0,425 : 1,85 : 0,0113 : 0,15 : 0,26$ . In order to check the coincidence of the  $\gamma$ -quanta of Lu<sup>173</sup> the coincidences of the  $\gamma$ -quanta with an energy of 274, 175 and 79 keV with the other quanta of the spectrum were examined. The results are

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SOV/48-22-7-11/26

## On the Lutetium Isotope With the Mass Number 173

as follows: The  $\gamma$ -line at 79 keV gives a coincidence with the lines at 101, 175, and 274 keV. The  $\gamma$ -line at 175 keV gives a coincidence with the 101 keV-line and with that of the self-coincidence, which substantiates the composite character of this line. A control experiment checking on the coincidence of the 274 keV-line with the other lines confirmed these statements. Based upon a combined evaluation of the results from reference 3 and of this paper a decay scheme of Lu<sup>173</sup> is suggested. The low activity of the preparation did not permit to determine the position of the 570 and 630 keV transitions. In the computation of the relative coincidence probability of various  $\gamma$ -quanta of Lu<sup>173</sup> the aforementioned decay scheme and the known parameters of the measuring equipment for  $\gamma$ - $\gamma$ -coincidences are used. The results of the computation and of the experiment well agree with each other. The staff of the Laboratory for Nuclear Problems OIYAI assisted in the work. K. Ya. Gromov and B. S. Dzhelepov discussed the results of the investigation with the authors. There are 4 figures and 3 references, 3 of which are Soviet.

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On the Lutetium Isotope With the Mass Number 173

SOV/48-22-7-11/26

ASSOCIATION: Radiyevyy institut im. V. G. Khlopin Akademii nauk SSSR  
(Radium Institute imeni V. G. Khlopin, RS USSR)

Card 4/4

GORODINSKIY, G.M.

AUTHOR: Varshalovich, D.

SOV/53-65-4-9/13

TITLE: VIII Annual Congress of Nuclear Spectroscopy (VIII yezhegodnoye soveshchaniye po yadernoy spektroskopii). III

PERIODICAL: Uspekhi fizicheskikh nauk, 1958, Vol. 65, Nr 4,  
pp. 724 - 725 (USSR)

ABSTRACT: Continuation of the list of lectures held on occasion of the VIII.Congress of Nuclear Spectroscopy, Leningrad, January 27 - February 3, 1958. G.M.Gorodinskiy, A.N.Murin, V.N.Pokrovskiy and B.K.Preobrazhenskiy (RIAN) gave a report on the mass number and the decay scheme of  $Gd^{146}$  ( $T_{1/2} = 50$  d) and of  $Eu^{146}$  (4,3 d); V.K.Adamchuk, A.A.Bashilov and B.K. Preobrazhenskiy (LGU) on the  $\gamma$ -intensities and internal conversion coefficients for a number of transitions in  $Eu^{147}$  and  $Eu^{149}$ ; I.M.Anton'yeva, A.A.Bashilov, B.S.Dzhelepov and B.K.Preobrazhenskiy(LGU) on conversion spectra and decay schemes for  $Gd^{145}$ ,  $Gd^{149}$ ,  $Gd^{153}$ ,  $Eu^{145}$  and  $Eu^{149}$ ; V.I.Baranovskiy, A.N.Dobronravov, L.M.Krizhanskiy, A.M.Murin, V.N. Pokrovskiy and I.A.Yutlandov (RIAN,LGU) on the mass determination of the Dy- and Tb-isotopes by means of mass spectro -

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VIII Annual Congress of Nuclear Spectroscopy. III

SOV/53-65-4-9/13

metrical analyses; B.S.Dzhelepov, B.K.Preobrazhenskiy, I.M. Rogachev and P.N.Tishkin (LGU) on spectra of Dy-conversion electron spectra, observation of many conversion lines at  $T_{1/2} = 7,5 - 11$  h,  $\sim 38$  h and 1,5 d; N.M.Anton'yeva, A.A.Bashilov, B.S.Dzhelepov and B.K.Preobrazhenskiy (LGU) on Tb conversion spectra, transition energies, and decay schemes (Tb-151, 153, 154, 155, 156; Gd-149, 151, 153); B.S. Dzhelepov, O.Ye.Kraft, B.K.Preobrazhenskiy, G.F.Yushkevich (LGU) on positron spectra and spectra of conversion electrons of Dy; O.I.Grigor'yev, V.S.Kuznetsov, I.S.Shimanskaya, I.A. Yutlandov (RIAN) on the energies of the transmutations  $Dy^{159} \rightarrow Tb^{159}$  and  $Er^{165} \rightarrow Ho^{165}$  and the L- and K-capture probabilities; Ye.P.Grigor'yev, B.S.Dzhelepov, A.V.Zolotavin, O.Ye.Kraft, B. Kratsik and L.K.Peker (LGU) on conversion spectra of  $Tb^{160}$  and  $Ho^{160}$  and the spectrum of the photoelectrons of  $Tb^{160}$ ; S.A.Baranov, Yu.F.Rodionov, G.V.Shishkin, L.V. Chistyakov AN SSSR (AS USSR) on results of the investigation of Dy<sup>161</sup> level schemes; K.Ya.Gromov, B.S.Dzhelepov, A.G. Dmitriyev, V.A.Morozov, L.K.Peker, B.K.Preobrazhenskiy (RIAN)

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VIII Annual Congress of Nuclear Spectroscopy. III

SOV/53-65-4-9/13

on spectra of conversion electrons of Tm<sup>166</sup> (23 transitions were investigated and the decay scheme was determined); B.S.Dzhelepov, B.K.Preobrazhenskiy, L.K.Peker, B.A.Sergiyenko (LGU) on the coincidence of conversion electrons of Eu<sup>147</sup>, Tm<sup>165</sup>, Tm<sup>166</sup> and Tm<sup>167</sup>; B.S.Dzhelepov, B.K.Preobrazhenskiy, Yu.V.Khol'nov and G.Ye.Shchukin(RIAN) on investigations in the hard range of the  $\gamma$ -spectrum of the Lu-and Tm-isotopes which exhibit a deficiency in neutron; A.I.Lebedev, A.H.Silant'yev, I.A.Yutlandov (RIAN) on results of investigations concerning the  $\gamma$ -radiation of Lu<sup>171</sup>; B.S.Dzhelepov, B.K.Preobrazhenskiy, B.A.Sergiyenko (LGU) on the coincidence of conversion electrons in the decay of Lu- and Tb-isotopes; G.M.Gorodinskiy, A.N. Murin, B.N.Pokrovskiy and B.K.Preobrazhenskiy (RIAN) on the decay scheme of Lu<sup>173</sup>, observation of a number of new  $\gamma$ -lines; P.M.Aron, G.M.Gorodinskiy, A.V.Kalyamin, A.N.Murin, V.A. Yakolev, V.N.Pokrovskiy and B.K.Preobrazhenskiy (RIAN) on investigations of Lu isotopes, and on the decay scheme of Lu<sup>173</sup>; I.S.Dneprovskiy, G.I.Kolesov, B.K.Preobrazhenskiy (GEOKhI) on the conversion spectrum of the chain reaction

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 $Er^{161} \rightarrow Ho^{161} \rightarrow Dy^{161}$ ; E.Ye.Berlovich, M.P.Bonits, V.I.Breslav,

VIII Annual Congress of Nuclear Spectroscopy. III

SOV/53-65-4-9/13

K.M.Grotovskiy, B.K.Preobrazhenskiy (LFTI) on the life time of low nuclear levels excited by electron capture; V.S. Businov, Yu.L.Khazov (LFTI) on investigations of Hf<sup>180m</sup> isomers; V.V.Anisovich (LFTI) took part in the discussion; M.P.Avotina and O.I.Sumbayev (VNIIM) on energy and intensity of the  $\gamma$ -radiation in the spectrum of Au<sup>190</sup>.

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G. G. DINS R. Y., G. M.

## PAGE I BOOK EXPLOITATION 207/393

Avtodanya nauk ZSSR. Radiophys. Institut

Trudy t. IV (Transactions of the Radium Institute, Academy of Sciences USSR, Vol. 9) Izd-vo Akad. Nauk SSSR, 1959. 287 p. Errata 1117 inserted. 1,700 copies printed.

Ed.: M.A. Perlov, Doctor of Physical and Mathematical Sciences; Ed. of Publishing House: G.M. Aron' Tech. Ed.: A.V. Savrov.

PURPOSE: The volume is intended for physicists.

CONTENTS: The book represents volume 9 of the Transactions of the Radium Institute and contains the results of studies conducted at the Institute on many from 1955 to 1956. There are a number of articles dealing with the study of nuclear reactions occurring with particles of different energies ranging from several eV up to hundreds of MeV. Others treat different problems of the physics of neutrons. Results of studies of various neutron sources, neutron energy distribution in a moderator (water), and other problems connected with the theory of neutron interaction with matter are presented. The majority of the articles concerned with cyclotrons or methods. The authors provide a complete description of the construction of equipment, and of the results of tests performed on cyclotrons. No practicalities are mentioned. References

\*Bogolyubov, N.N., E.I. Pariakov, and Yu.F. Resonance. Half Effect in Indication Chambers. 192

Nal'myach, I.S., I.A. Pariakov, and V.M. Tchernyavsky. Study of the Effect of Alpha-Particle Radiation on Penetrating in a Chamber with a Solid Angle = 2π. 207

Bogolyubov, N.N., L.Z. Leikin, K.A. Pariakov, V.A. Yazykov, and V.I. Tchernyavsky. Transaction Chambers for Alpha-Particle Tracing. 214

Nal'myach, N.N. The Direct Paths for Determining Low-Radius Concentrations in the Air. 229

Yatsenko, V.A. Distributions of Disintegrated Radium Products in Ampoules Filled with Powder and in Ampoules Without Filler. 234

Rike, G.I., A.I. Resovoy, and G.I. Stepanov. The Photoisomeric Effect of Zinc Oxide. 238

Artukov, V.A. Accumulation of the Uraferon Product in the Branch Decay of the Thorium-228 Series. 250

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Pariakov, I.A. Determination of Penetrable Half-life of Short-Lived Radioactive Isotopes. 254

Pariakov, I.A., Yu. I. Prokof'yev, and I.B. Novikova. Increasing the Sensitivity of a Particularily Fine-Grained Radiation by the Dual Isotopes Method. 267

\*Devich, G.R. Effect of Iodine on the Properties of a Particularily Fine-Grained Nuclear Radiation. 271

Semenov, V.A. Preparation of Solutions Containing Iodine for Iodine Nuclear Fission. 278

Resovoy, A.I. Study of Photoisomorphism for Iodine Compounds. 281

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*International Conference on the Humanized Care of Animals*, Kyoto, Japan, 1998  
National Research Institute of Animal Health, Ministry of Agriculture, Forestry and  
Fisheries (NRIAF), Niigata, Japan, 1998, 320 p. (National Test Series, Vol. 2)  
See also page 11, Abstract.

**REVIEW.** — *On the Nature and Properties of Chemical Compounds*, by J. D. Roberts, M.A., F.R.S., F.R.C.S., F.L.S., &c. London: Macmillan & Sons, 1891. Pp. xii + 250. Price, 12s. 6d.

In our second paper we reported Part I consisting of papers dealing with general properties and generalized thermodynamic functions, and Part II consisting of papers on molecular properties, including problems of particle approximation and of atomic properties. The first paper by both departments presents a review of current work on molecular thermodynamics and properties. The remaining papers in Part I deal with particular problems in this field.

concerning the two universities' contributions to the present movement, and the present movement's influence upon the universities.

SIXTY-EIGHT

*Review of British Entomological Research (cont.)*

*Review, ed.: Nuclear Radiation Control by Army Corps (August 2001)*  
Garrison, D. B., R. L. Johnson, and V. J. Pischke. *Report of the Army Institute Capstone on Strategic Initiatives and Mechanisms of Nuclear Arms Control* (June 2001).

1920-21. The first year of the new century was a period of great change in the life of the church. The new pastor, Rev. Dr. W. H. Miller, had been called in 1919, and he came to the church in January, 1920.

Bremmer, A.L., G.B. Bremmerly, L.H. Arntzen, A.J. Bartholomew,  
 D.E. Johnson, V.L. Miller, D.L. Marquart, D.L. Prosser, and E.L.  
 Sauer. Requirements of Green Bottles for Blue Herons (Report 223) 315

GORDONSKY, G. M.

SOV/120-59-4-17/50

AUTHORS: Gorodinskiv, G. M. Kochevanov, V. A.

TITLE: An Instrument for the Automatic Counting of the Number of Pulses

PERIODICAL: Pribory i tekhnika eksperimenta, 1959, Nr 4, pp 81-85  
(USSR)

ABSTRACT: The device is a spectrometer for the automatic registration of  $\gamma$ -spectra. The block schematic of the instrument is shown in Fig 1. The pulses are obtained from the photo-multiplier 1 and amplified in the amplifier 2. They are afterwards applied to a single-channel differential discriminator 3. The instrument includes a timer or clock which can produce timing pulses spaced at intervals 1, 2, 4, 8, 16, 32 sec or 0.5, 1, 2, 4, 8 and 16 min. The timing pulses are applied to an automatic discrimination-level controller 5, which performs the following functions: a) shifting of the discrimination level by a pre-determined voltage value; b) re-setting of the counter-circuit 6 which follows the discriminator; c) blocking of the counter 6 and d) applying the control signal to the automatic recorder 7 and to the relay which controls two mechanical counters 9. The standard pulses from the output of the discriminator are applied to the counter 6 which has a division ratio of 1:56.

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SOV/120-59-4-17/50

**An Instrument for the Automatic Counting of the Number of Pulses**

The output of this is connected to the automatic recorder 7 and to one of the two mechanical counters 9. The pulses from the control system 5 are also applied to the registering device. The purpose of the registering device is to produce a potential which would be proportional to the number of the input pulses during a given time interval. For this purpose, the registering device is furnished with a linear capacitive storage circuit. This is illustrated in Fig 2. A detailed circuit diagram of the registering device is given in Fig 3. This consists of a pulse shaper based on a uni-vibrator (the first two tubes), a linear storage circuit similar to that of Fig 2, a metering bridge and the automatic-control circuit. The system includes a number of relays. The pulses produced at the output of the univibrator have an amplitude of 100 V and a duration of 100  $\mu$ s. The pulses (from the resistance  $R_4$ ) are applied to one of the capacitors  $C_6$ .

The capacitances are chosen so that a full deflection of the

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**An Instrument for the Automatic Counting of the Number of Pulses**

recorder pen is obtained after the appearance of 200, 500, 1 000, 2000 or 5000 pulses. The operation of the device is as follows. If, initially, the relays  $P_1$  and  $P_2$  are in the position 1 (see Figure 3), the capacitor  $C_7$  is discharged and the grid of the fifth tube is at a potential of +75 V with respect to ground, the capacitor  $C_6$  will be charged to the right-hand portion of the third tube due to the appearance of the pulses at the anode of the univibrator. In the meantime, the potential of the capacitor  $C_7$  remains unchanged. The voltage of  $C_7$ , which was produced during the preceding exposure, is applied through the relay  $P_1$  to the grid of the seventh tube, whose cathode is connected with the recorder by means of the bridge circuit. Consequently, while the capacitance  $C_6$  of the second storage circuit changes its potential due to the pulses, the recorder is connected to  $C_7$  and its pen traces a straight line, whose position corresponds to the potential of  $C_7$ . When the next pulse from the timer operates relays  $P_5$  and  $P_6$ ,

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SOV/120-59-4-17/50

An Instrument for the Automatic Counting of the Number of Pulses  
and a uniselector, the relays  $P_1$  and  $P_2$  change over to  
the second position and the relay  $P_3$  instantly discharges  
 $C_7$ . Now, the pen of the recorder indicates the potential  
of  $C_6$  and the capacitor  $C_7$  is being charged by the pulses.  
The device was employed to investigate the  $\gamma$ -spectra of  $Cs^{137}$   
and  $Pr^{140}$ . The results are shown in Figs 4 and 5. The  
exposure time for each point of Fig 4 was 16 sec, while that  
of Fig 5 was 96 sec. The authors express their gratitude to

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SOV/120-59-4-17/50

An Instrument for the Automatic Counting of the Number of Pulses

A. N. Murin for his interest in this work and discussion of the results and to Kokish who recommended the linear storage circuits; acknowledgment is also made to R. A. Kuznetsov and L. A. Smirnov for their help in the construction of the instrument. There are 5 figures and 6 references, of which 5 are Soviet and 1 English.

ASSOCIATION: Leningradskiy gosudarstvennyy universitet (Leningrad State University)

SUBMITTED: May 31, 1958.

Card 5/5

GORODINSKIY, G.M.

Method of measuring the half-lives of short-lived radioactive elements.  
Trudy Radiev.inst.AN SSSR №258-267 '59. (MIRA 14:6)  
(Radioactive substances--Decay)

24.6P10  
205b2S/048/024/03/11/019  
B006/B01424.6P10AUTHORS: Baranovskiy, V. I., Gorodinskij, G. M.TITLE: Determination of the Number of Decay Events of Electron-capturing Preparations by Means of a  $4\pi$  Scintillation CounterPERIODICAL: Izvestiya Akademii nauk SSSR. Seriya fizicheskaya, 1960, Vol. 24, No. 3, pp. 313-323

TEXT: The article under review was read at the Tenth All-Union Conference on Nuclear Spectroscopy (Moscow, January 19 - 27, 1960). The complicated problem of carrying out absolute countings in  $4\pi$  geometry was solved by the authors with the help of a CsI(Tl) scintillation counter. A detailed description is given of the counting technique and the theory of determination of the desired quantities. The counter described is suited for counting radiations with  $E > 30$  kev. The crystal used for the counter had a diameter of 30 mm and a height of 25 mm. The sample ( $Tu^{167}$  in the above-mentioned case) was placed into a 3 mm thick, 13 mm deep hole.

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Determination of the Number of Decay Events  
of Electron-capturing Preparations by Means  
of a  $4\pi$  Scintillation Counter

S/046/60/024/03/11/019  
B006/B014

The solid angle did not deviate by more than 1 - 2 per cent from  $4\pi$ . The hole in the crystal was lined with aluminum foil ( $3.4 \text{ mg/cm}^2$ ), so that the preparation lay on the bottom of this "container". Fig. 2 shows the  $\gamma$ -spectrum of the  $Tu^{167}$  preparation, which was recorded inside the crystal. The determination of the relation between the decays  $N_0$  that have taken place and the decays  $N_{\text{count}}$  that were recorded by the counter is now the principal theoretical problem. It is assumed that  $N_{\text{count}} = \xi N_0$ .  $\xi$  is theoretically calculated for the  $i$ -th and the  $l$ -th channels of the device, and one obtains formula (7). In the following section, the authors discuss the determination of the efficiency of the crystal with respect to  $\gamma$ -radiation, and some formulas are given. The next section deals with an analysis of formula (7), which gives  $\xi$ . It is shown that the isotopes under consideration may be divided into two classes: 1) One class embraces the isotopes whose decay energy exceeds considerably the potential energy of the K-electron. In this case, the ground state is reached only in few decays. For these isotopes,  $\xi = 0.95 \pm 0.05$  (error  $\pm 1 - 2\%$ ), irrespective of the decay scheme.

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Determination of the Number of Decay Events  
of Electron-capturing Preparations by Means  
of a 4x Scintillation Counter

S/048/60/024/03/11/019  
B006/B014

2) The other class comprises the isotopes with a small decay energy. In this case, the ground state is reached in the major part of decays. Here,  $\xi$  depends on the decay scheme of the respective isotope. In the last section, the authors discuss the determination of  $\xi$  in the case of isomeric transition. Finally, it is said that the above-described counter is very useful for recording X-rays and gamma rays in a wide energy range, and that it is highly sensitive. It is possible to measure activities of up to  $10^{-10}$  curies (statistical error of  $\pm 5\%$ ). Further, the counter records decay events very accurately (between  $\pm 1\%$  and  $\pm 5\%$ ), and is easy to operate. The authors finally thank A. N. Murin and B. K. Preobrazhenskiy for their discussions. There are 8 figures, 2 tables, and 9 references, 8 of which are Soviet.

ASSOCIATION: Radiyevyy institut im. V. G. Khlopina Akademii nauk SSSR  
(Radium Institute imeni V. G. Khlopin of the Academy of Sciences, USSR)

Card 3/3

S/056/62/043/006/014/067  
B154/B102

AUTHORS: Gorodishkiy, G. M., Krizhanskiy, L. M., Kruglov, Ye. M.

TITLE: On magnitude of quadrupole interaction between Si<sup>119m</sup> nuclei and the crystal lattice

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 43,  
no. 6(12), 1962, 2050 - 2052

TEXT: The authors investigate the discrepancies observed between other authors' results (e.g. ZhETF, 40, 713, 1961; 41, 1347, 1961; 41, 1767, 1961, and Proc. Phys. Soc., 77, 1062, 1960; Phys. Rev., 123, 179, 1961; 120, 2211, 1960) concerning measurements of the quadrupole interaction between the

Sn<sup>119m</sup> nucleus and the crystal lattice. The experimental values of the resonance absorption line widths  $2\Gamma_{exp}$  varied between 0.9 and 1.8 mm/sec and the splitting constants  $\Delta$  between  $3 \cdot 10^{-8}$  ev and  $(11.0 \pm 1.5) \cdot 10^{-8}$  ev.

The authors of the present paper used as source a 7.15 mg/cm<sup>2</sup> thick  $\beta$ -Sn foil (0.1% Sn<sup>112</sup>; 2.3% Sn<sup>119</sup>; 94% Sn<sup>118</sup>) irradiated by a neutron beam of integral flux  $2.1 \cdot 10^{20}$  neutrons/cm<sup>2</sup>.  $\beta$ -Sn foils of several thicknesses

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On magnitude of quadrupole...

S/056/62/043/006/014/067  
B154/B102

Legend to the Table: (1) Compound and the type of the lattice\*,  
(2) thickness, mg/cm<sup>2</sup>, (3)  $2\tau_{exp}$ , 10<sup>-8</sup> ev, (4) isomeric shift, 10<sup>-8</sup> ev.  
\* type of the lattice: T - tetragonal, T(X) - tetragonal chalco-pyrite.

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S/020/62/147/001/018/022  
B101/B144

AUTHORS: Gol'danskiy, V. I., Corresponding Member AS USSR, Gorodinskiy,  
G. M., Karyagin, S. V., Korytko, L. A., Krizhanskiy, L. M.,  
Makarov, Ye. F., Suzdalev, I. P., Khrapov, V. V.

TITLE: Investigation into the Mössbauer effect in tin compounds

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 147, no. 1, 1962, 127 - 130

TEXT: The Mössbauer effect in the symmetrical compounds  $\text{SnCl}_4$ ,  $\text{SnBr}_4$ ,  
 $\text{SnI}_4$ ,  $\text{Sn}(\text{C}_6\text{H}_5)_4$  and  $\text{SnO}_2$  and in the asymmetrical compounds  $\text{Ph}_3\text{SnHal}$   
( $\text{Ph} = \text{C}_6\text{H}_5$ , Hal = F, Cl, Br, I) was studied using an apparatus in which the  
absorber moved uniformly with respect to the source and an apparatus with  
sinusoidal movement.  $\beta$ -Sn or  $\text{SnO}_2$  were used as sources of the 23.8-kev  
gamma-quanta ( $\text{Sn}^{119m}$ ). With the symmetrical compounds the chemical shift  $\delta$   
of the absorber lines with respect to  $\beta$ -Sn, expressed in mm/sec  
( $1\text{mm/sec} = 7.9 \cdot 10^{-8}$  ev), was a linear function of the electronegativity of  
the atoms bound to Sn. The equation  $\delta = 1.6 \cdot 10^{-29} [\left| \psi_s(0) \right|^2_{\text{absorb}} - \left| \psi_s(0) \right|^2_{\text{emit}}] \Delta R/\text{Rev}$   
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